

# Integral Sustainability as driving force for paradigmatic change in human lifestyle

## *A Sustentabilidade Integral como força motriz para a mudança paradigmática no estilo de vida humano*

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### ABSTRACT

Since the Rio de Janeiro Earth Summit (synonymous Rio Summit, Rio Conference, or Earth Summit - Portuguese: ECO92), the term sustainability has been used at almost all international meetings and has become a permanent item on the commitment agenda for various entities and corporations. Nevertheless, the concept of sustainability is still an enigma in relation to its limits and magnitude. In this context, the purpose of this scientific article is to present a discussion focused on the inherently multifaceted concept of sustainability. Furthermore, based on the renovation of the meaning and verifying the content fluency, it was noted that a clear systematic concept was lacking. If an ongoing expansion of the content is allowed on one side of this scenario, in contrast to a stagnant concept, on the opposite side, this figurative discussion could cover up problems that society and its representatives want to smooth over rather than deal with them. Therefore, this paper adopts a sustainability concept that makes human aware of their full potential and expand their "inner self". It is the assumption of individual responsibility, based on the understanding to act locally, including social commitment, which comprises human relations, surrounding areas, and, in a broad view, the Planet Earth.

**Keywords:** Integral Sustainability; Individual Responsibility; Social Commitment.

## RESUMO

*Desde a Cúpula da Terra do Rio de Janeiro (Cúpula do Rio, Conferência do Rio ou Cúpula da Terra - Português: ECO92), o termo sustentabilidade passou a ser utilizado em praticamente todas as reuniões internacionais e adentrou definitivamente na agenda de compromisso de diversas entidades e empresas. Contudo, aparentemente, o conceito de sustentabilidade permanece uma incógnita em termos de limites e abrangência. O objetivo do presente artigo científico é introduzir uma discussão sobre o conceito de sustentabilidade. Dessa forma, a partir de um resgate de seu significado e da verificação da fluidez de seu conteúdo, apontou-se a ausência de uma clara sistematização conceitual. Se por um lado esse cenário permite uma contínua expansão de seu conteúdo e o não engessamento de seu conceito, por outro lado, esse discurso figurado pode acobertar problemas que a sociedade e seus agentes não querem tratar, mas apaziguar. Portanto, o presente artigo adota o conceito de sustentabilidade enquanto o despertar do ser humano para o seu potencial e para expansão do seu “eu interior”. É a assunção da responsabilidade individual, a partir da percepção do agir localmente, até o comprometimento social que se expande para atitude perante o outro, o entorno e o planeta Terra.*

*Palavras-chave: Sustentabilidade integral, responsabilidade individual, comprometimento social.*

## 1 INTRODUCTION

Sustainability currently seems to be one of the most society's vogue words. The term is found in various branches of society and has spread throughout various social segments and political-economic sectors. However, it is apparent that there is a lack of criteria for consistency, depth and approach (SOUZA, 2002; GOMIS et al., 2011; JEPPESEN, 2011; GATTI and SEELE, 2014; OPP, 2017).

Sustainability is used constantly in corporate commercials, the mission statements of non-governmental organizations, academic discussions, the speeches of political and business personalities worldwide, as well as international forums (as those conducted by the United Nations, for example) It is also possible to find a clear relationship between sustainability and environmental protection practices, reviewing the use of materials and industrial production (NABAVI, DANIELL and NAJAFI, 2017). Therefore, it's possible to understand sustainability as a discussion mechanism to improve human and social relations to reduce poverty and marginalization. It is still a broad term in the theoretical construction of the natural sciences.

Veiga (2006, p. 164-165) does not adopt a concept to sustainability and states that the weaknesses, imperfections and ambiguity of its notion are exactly the reason for its strength and almost total acceptance as “primarily an ethical issue, one can only praise the fact that the idea of sustainability has gained so much importance over the past twenty years, even if it cannot be understood as a scientific concept. Sustainability is not, and never will be, a precise, distinct, analytical or arithmetical notion, as any positivist would like it to be.”

Contrary to Veiga (2006), Souza (2002, pg. 01) points out that it is essential to reflect on the concept of sustainability from an epistemological and methodological point of view (theoretical and conceptual). For Souza, the sustainability concepts are indiscriminately used by the academy, because their definitions are fluid and enable false problems to be entertained.

Thus, this research intends to contribute to debate of sustainability concept from describing its evolution treated by scholars, including the addition of its adjectives such as “environmental”, “social”, “economic”, and “integral”. Since this point, this article adopts the integral sustainability concept and, then, to bring reflections that show its innovative aspect and how it is different from the prevailing ones.

## **2 THE TERM SUSTAINABILITY AS A FLEXIBLE FRAMEWORK AND DISCUSSIONS ABOUT ITS MEANING**

At the core of the historical formation process of the sustainability idea, Souza (2002, pg. 07) addresses the political context of dealing with environmental issues, first with the creation of the eco-development concept covered by the Stockholm Conference (1970), and later with the creation of the sustainable development concept by the Brundtland Commission (WCED, 1987.) According to Souza, these concepts were incorporated into the speeches of technicians and engineers, scientists, professionals, and progressive politicians, not always with a critical reflection focused on how to think about the complexity of all social, geographical and environmental issues, and how to include in this issue (namely: the effective promotion of sustainability) realities with distinct characteristics (sometimes opposing) around the Globe (SOUZA, 2002; ESPINOSA and WALKER, 2017).

Countries frequently adopted sustainability concepts without sufficient discussion at the national and regional level (ESPINOSA and WALKER, 2017). Many measures are not compatible with the realities found in each of the locations. The formulas do not always consider the possible range of problems that they intend to solve (SOUZA, 2002).

Mendonça (2005, pg. 71) raises basic questions to be reflected upon regarding the relationship between man and nature based on the day to day problems of Brazilian society in relation to threats to social peace, when observing statistical data and the high rates of crime, violence, corruption, slums, unemployment/menial work, income distribution, habitation, school, nutrition, and leisure activities, among many other indicators of this reality: “How to talk about the environment under these conditions?! How to talk about the environment in a slum?! How to talk about the environment to “landless squatters”?! What do these people need to resolve first?! What are their basic needs?” (MENDONÇA, 2005, pg. 71).

Of course, these are not easy issues, but society must face them. Society needs to rethink the existing synergic relationships between humans and the environment. The revision of the current development paradigms was necessary to rethink what kind of relationship exists between man and his surroundings (COSTA, MOUTINHO DOS SANTOS, 2011; COSTA et al., 2013; COSTA et al., 2015).

Moutinho dos Santos (2004) uses the vernacular essence of the definition of the verb “sustain” to demonstrate that linguistic wealth makes it a difficult task to create a direct and simple definition of sustainability. For this author, the origins of the noun “sustainability” have been related to a state or dynamic condition that can be maintained for an indefinite, but longer period of time (MOUTINHO DOS SANTOS, 2004, p. 05). This perception is close to the concept used in Vargas (1996, p. 297), that correlates sustainability to society adopting a lifestyle that preserves the diversity of life systems, guaranteeing the continued operation of the multifaceted evolution process. Barbarieri (2005, p. 39) states that the “traditional concept of sustainability originates in Biological Science and applies to renewable resources, particularly those that can be depleted by uncontrolled exploration, such as the cases of schools of fish and vegetable species from the natural forests.”

Furthermore, Moutinho dos Santos (2004, p. 06) explains that, in other approaches, sustainability is interpreted as a description of processes that are continually evolving, revealing concerns regarding the rate of changes. In addition, within this system, sustainable development becomes the key issue. The author also refers to the principle of intergenerational equity when covering a more complete acceptance of sustainability, alluding to the use or management of natural resources at an acceptable rate, which allows the needs of current generations to be satisfied and protects the interests of future generations. According to this author, sustainability requires a simultaneous understanding of three dimensions: “environmental, economic and social requirements of the communities (and throughout the generations)” (MOUTINHO DOS SANTOS, 2004, p. 06).

In the context of the environmental dimension, Ribeiro (2010, p. 70) indicates sustainability as the planet’s load capacity to support the reproduction of life. This vision is close to that presented in Carvalho (2009), which poses the effective compatibility of the growing use of natural resources

with the environment's capacity to renew them and recycle the waste as an essential condition for sustainability.

Veiga (2006, p. 109) consider that the notion of sustainability basically involves three response standards corresponding to two extreme theories creating an impasse and anathema in the rhetorical scientific scope, and a third line of thought with eclectic discussion, which is part of the political-ideological rhetoric. Therefore, on one hand, the authors who do not believe that there is a dilemma between environmental conservation and economic growth thereby support a possible conciliation.

In such context, Veiga (2006, p. 109-128) temporize that, within this field the positions of economists vary, or in other words they are heterogeneous. For example, the followers of Solow, who believe in the ability of technology to reverse environmental degradation, are call the proponents of "weak sustainability." Veiga (2006, p. 123) points out that the limits of weak sustainability assume that the "stock of natural resources can be depleted, as long as this depletion is progressively counterbalanced by additions that are proportionally greater than or equal to other key factors – work and capital produced, - often included in the expression 'reproducible capital'."

On the other hand, the proponents of strong sustainability, according to Veiga (2006, p. 124), is comprised of neoclassical economists. For these less optimistic proponents, Veiga (2006, p. 124) says: "the criteria of intergenerational fairness should not be to maintain total capital, but rather to maintain the non-reproducible capital which is called 'natural capital.' And since it cannot be ignored that most of this 'natural capital' is exhaustible, they propose that the environmental degradation caused by certain activities should be compensated in some way by other activities." However, the theories do not stop here. Veiga (2006, p. 152) points out that "between these two extremes there is a heterogeneous quagmire that insists on trying to 'greenwash' other traditional anti-ecological variants of economic science, whether institutional or pure Marxism."

Moreover, the theories that deny any possibility of convergence between environmental conservation and economic growth, for example, Georgescu-Roegen (1999) defends that development with fewer products should be supported by humanity. And, also among the skeptics, Daly (1996, p. 1-18) focusses on the "stationary condition" as an alternative to ecological degradation, with economy improvements in qualitative terms, by checking, for example, the migration of fossil fuels to clean energy. The approach outlined by Daly is interesting about the concept of sustainable development - that, in his opinion, establishes a troubling uncertainty, which was embraced and institutionalized by various debate forums, such as classical economists, the World Bank, the Academy and North American policies.

Hardin (1968) reflects on the inherent limitations of the Planet Earth in relation to human satisfaction based on maximizing the availability of goods. If it is considered that the material needs of humans are unlimited, and in order to satisfy these needs that they should use the limited natural resources available on the planet, two incompatible propositions emerge. Along this lines, Amado (2010, p. 159) based on statistical analysis, concluded that it is not possible to consolidate continual economic growth faced with exhaustible base of natural resources on a finite planet. This, largely, reflects the understanding that the consumption of exhaustible natural resources will lead to the problem of depletion, just as the acquisition and use of energy materials will inevitably lead to the problem of dissipation, which is an irrefutable physical law. Namely, the Second Law of Thermodynamics (Entropy Law) which states that the energy available to conduct work reduces after each transformation and entropy always increases even during irreversible cycles (FURUKAWA; YAMAMURA, 2004).

Georgescu-Roegen (1999, p. 292), comparing the relation between economic theory and the Second Law of Thermodynamics, explains that classic economic model of growth, based on the use of energy (low entropy), dissipates into the environment its form of heat (high entropy), which cannot be used, resulting in a lower amount of energy available for use after each transformation. As such, Georgescu-Roegen (1999) addressed the need to find a growth pattern compatible with environmental conservation, which leads to development with less production and consumption.

However, the ideas of Georgescu-Roegen (1999) were not well received by the economic community when the first edition was published in 1971 (VEIGA, 2006; CECHIN; VEIGA, 2010; AMADO, 2010).

At this time, the natural resources were not included in the growth models formulated in the mid twentieth century, such as the Cobb-Douglas model, and they were not considered in neoclassic economic theories, which dominated the economic growth theory from the mid-1950s through the mid-1980s (AUTY, 2007, p. 627). Nevertheless, the problem identified by Georgescu-Roegen (1976; 1999) remained and became more severe (FERREIRA, 2005) (BIRNIE; BOYLE, 2002).

Then, in 1992, at the United Nations Conference on Environment and Development, also called ECO-92 (or Earth Summit), the concept of sustainable development was consolidated with the publication of Agenda 21, which established the understanding that “all nations are responsible for and have the right to pursue sustainability in their development” (MOUTINHO DOS SANTOS, 2004, p. 07).

Moutinho dos Santos (2004, p. 07) identified ECO-92 as the moment when the term sustainability started to be used at practically all international meetings and confirms the tendency of it to be used in any activity during the 21st century. As a result, through the experience and learning of companies, institutions and organizations the process of defining acceptable sustainable criteria for the communities was put into motion:

It will be an extremely dynamic process, through which the people, communities and organizations will continually question and redefine the criteria. The innovative work of each institution will be to recognize, explain and thoroughly communicate their interpretation of the criteria and the “sustainable” behavior to be followed. It will not be possible to refuse the obligation to make choices and try to balance conflicting needs (MOUTINHO DOS SANTOS, 2004, p. 07).

Considering that even though the concept of sustainability is vague and indefinite (TAPIA-FONLLEM, CORRAL-VERDUGO, and FRAIJO-SING, 2017), concentrating on sustainability (while an ethical value) assumes that its acceptance conveys the responsibility to embrace it as an ethical commitment belonging to the present generations. In other words, considering the uniqueness and integrity of the human species, it is possible to say that the diverse and multifaceted meanings for sustainability should be put into place now by humanity.

Along this bias, the social commitment is found by accepting Georgescu-Roegen (1976) in which the economic activity of any generation has an influence on future generations. The energy and material resources on land are irrevocably degraded and accumulate the toxic effects of environmental pollution. Therefore, this Romanian mathematician and economist concludes that one of the main problems facing humanity is the relation between the quality of life of one generation and that of another, particularly when sharing the bounty of humanity across generations.

Thus, Georgescu-Roegen came close to the approach of the uniqueness and integrity of the human generations on the planet earth and advises about the ongoing importance of decisions made as a legacy or, in other words, mutual responsibility and solidarity. Therefore, Georgescu-Roegen recognized the problem of the continuity of human life on the Planet Earth, which is, treating humans as objects and not subjects who are part of a system that is subject to irrevocable physical laws. Therefore, the generations are objects within a subject with its own life, the Planet Earth.

Far from a consensus, the debates continue and, currently, as explained by Sachs (2006) preceding the work conducted by Veiga (2006), sustainable development should, strictly speaking, be adjectival “broken down in socially inclusive, environmentally sustainable and economically sustained in time.” Nevertheless, Sachs (2006) warns that “the problem of development is no longer in vogue and its academic status is becoming more and more marginal.”

For Souza (2002, p. 07), sustainability is a powerful metaphor that covers up the topic that needs to be dealt in an intense and uninterrupted way: inequality. The globalized world is becoming more and more unitary from a technical viewpoint, but it is fragmented and unsustainable (segregated) from a socio-spatial and socio-political viewpoint (SOUZA, 2002, p. 08).

This paper considers that the concept of sustainability involves the reflection of inequality (PIETRZAK and BALCERZAK, 2017) and the ideology of separation created by man, who by forgetting his unity, is fragmented and is not able to obtain responses that consider the complexity of reality (COSTA, SIMÕES,

MOUTINHO DOS SANTOS, 2016; COSTA, BRASIL, BERMAN, 2016; COSTA, BRASIL, MOUTINHO DOS SANTOS, 2017).

Therefore, this research advocates that it is relevant to discuss the sustainability concept. It is important to understand the unity vision of the human generations and the integral perspective of the human being (COSTA; MOUTINHO DOS SANTOS, 2011; ARODUDU, et al., 2017). For this research, the idea of fragmentation does not seem to be adequate to any possible understanding about human generations, not even in the period that separates the generations (COSTA, BRASIL, BERMAN, 2016; COSTA, BRASIL, MOUTINHO DOS SANTOS, 2017).

### 3 A possible direction – Integral Sustainability: changes to the lifestyle of human beings

Sachs (1998, p.02-06), when examining the relation between human rights and development as an expansion of positive rights from the viewpoint of Sen (2000), points out that these two subjects occupy a central position in the major concerns of the United Nations. Various adjectives have been added to the noun development, such as economic, social, cultural, political, sustainable and human, in order to address the problem of accomplishment for men and women instead of the multiplication of economic goods (SEN, 2000, p. 337):

In fact, the development becomes the liberation of men from material problems, which assumes a fair share of the take and the removal of all obstacles to achieve the quest for wellbeing. (...) At the end of the 20th century, social and ecological issues emerged as the primary concerns resulting from the devastation provoked by the uncontrollable hegemony of economic measures and the supremacy of the market logic over the logic of needs. A history of development arose from the reexamination of this pair, enabling a better understanding of the conditions when growth is accompanied with authentic development.

As seen in Sachs (1998), the questions that emerged, based on the social and ecological reality experienced by humanity at the end of the 20th century, caused paradigms review based on market logic to be directed towards the logic of needs. Human needs are simple, intuitive, valued and expansive. Humans feel hunger, hot and cold sensations, shelter, knowledge, love, affection, acceptance of new ideas, creative, power, courage, practical use of knowledge to connect with their inner self, spirituality and the community to which they pertain. Human needs are good and directed toward the expansion of human awareness and to their inner self (PRZEPIORKA, 2010; COSTA, BRASIL, BERMAN, 2016; COSTA, BRASIL, MOUTINHO DOS SANTOS, 2017).

Why humans have concentrated all their efforts on working constantly to multiple their capital? Will this entire generation of wealth offset other human needs such as affection, spirituality, creativity, environment and relationships? On this bias, Veiga (2006, p. 194) argues that in “first world” countries (that is, developed countries in accordance with typical terminology adopted by the United Nations, which became more evident starting in the mid-1990s), the basic needs of these populations have already been met, “and many of the needs that have not yet been satisfied do not require more production, but rather a different style of production or production of a different item or even less production. This is specifically the case of air, water, space, silence, beauty, weather, and human contact” (VEIGA, 2006, p. 194)

However, as presented by Sen (2000, p. 09) the world is full of rampant deprivation, destitution, and oppression: persistence of poverty and basic needs that have not been met, widespread collective and chronic hunger, political and civic freedom violations, negligence with regard to the interests and status of women and greater and greater threats to the three macro dimensions usually associated with the concept of sustainability: environmental, economic and social. In such context, Sen (2000) defends the supremacy of substantive freedom, showing the ability of each individual to lead the type of life that he/she can value.

Based on this, Sen (2000) argues that expanding the freedom of people is favorable to individual responsibility and social commitment. And, development is a “very serious commitment to the possibilities of freedom” (SEN, 2000, p. 337).

Therefore, adding adjectives to development translates into a many-sided and unequal reality comprised of economic, social, cultural, political, sustainable and human fields, in which human needs persevere in distinct manners around the world.

Barbieri (2005, p.37), under this auspice, notes that sustainability begins to incorporate the significance of maintenance and conservation ab aeterno of the natural resources. However, Barbieri warns "(...) this requires scientific and technological advances that will continually expand the ability to use, recover and conserve these resources, in addition to new concepts of human needs to alleviate the pressures of society on them."

Therefore, changes in paradigms and attitudes are without a doubt inherent to the intimate relationship between human needs, fundamental rights and sustainability. However, as analyzed in the Section 2 of the present paper, the definition of sustainability is intrinsically vague enabling its continual expansion to incorporate new values and just ethics. As such, based on the discussion of basic rights, the evolution of sustainability could include the addition of new dimensions. Along these lines, Aloe (2010), Cabral (2011), Egmond and Vries (2011), draw attention to all the matters that pervade the human being while living on Planet Earth and that could be included within the idea of expansion toward integral sustainability.

Therefore, the human being is then considered the focus of this research and within an integral perspective. This paper defends the proposal of integral perspective for suitability concept in its four dimensions: social, environmental, economic, and world vision (EGMOND and VRIES, 2011). This study includes the expansion of the sustainability concept for expanding the individual's conscience, that is, individual responsibility for the social commitments described in Sen (2000).

The content of each dimension requires continual expansion of the conscience of humans while being on the planet (ROGGE and REICHARDT, 2017). Humans need to know how to socialize, take care of the environment, take care of the home, take care of money, earn, spend, consume, and take care of the planet, water, nature and animals (ALOE, 2010; EGMOND and VRIES, 2011; COSTA, BRASIL, BERMAN, 2016; COSTA, BRASIL, MOUTINHO DOS SANTOS, 2017).

In the dimension of world vision, Aloe (2010, p. 01) explains that the meaning is to pervade various subjects, for example arts, culture and creativity. The idea is to revive humans' relationship with beauty, the culture of their country and city, to focus on integrating with the community, and to love and identify with their natural and social surroundings (SOINI and DESSEIN, 2017).

Along this same line of thought, Aloe (2010, p. 01) deals with the subject of health which includes the mind, body, spirit and vital energies. With these points, one is able to work with the concept of integral sustainability "because there is no point in being an expert in economic, social and environmental issues if you cannot take care of yourself. For humans to attain this authentic sustainability, they must also take care of themselves."

Therefore, the idea of expanding the traditional concept of sustainability deals with the expansion of the individual's conscience, "the issue of acting locally and thinking globally. Aloe (2010, p. 01) concludes: "I act locally starting with myself, my family, neighborhood, city, work, school and then the issue expands." Therefore, this research adopts the vision that humanity is connected.

Integrity as a proposal to expand the dimensions of sustainability collaborates with the vision of Sachs (2002) on the validity of the sustainable development dimensions discussed at the conferences in Stockholm, in 1972, and Rio, in 1992, which are social, cultural, ecological, environmental, territorial, economics, national politics and international politics. Therefore, integral sustainability proposes to absorb some of these dimensions in the world vision to make the idea of expanding the human conscience transparent, giving humans a perspective of their responsibility to themselves, others, the area where they live and the Planet Earth. Using this line of logic, the constant elements of Our Common Future (WCED, 1987) for sustainable development will also be included in the integral expansion of the sustainability dimensions. Therefore, individual responsibility, social commitment and solidarity shall be the primary values in this new approach to the sustainability dimensions (HÁK, JANOUŠKOVÁ, and MOLDAN, 2017).

This responsibility considers the individual as an agent, not passive subject of the reality around them and the implications their decisions entail for their surroundings. Social commitment embraces fairness or intergenerational equity, based on the fact that at “any time, each generation is both the guardian and trustee of the land and its use: beneficiary of its fruits”, which imposes the responsibility to take care of the planet (WEISS, 1993, p. 15). And, solidarity covers the ability to understand human needs in order to expand the effective possibilities of basic rights when communicating and sharing similar problems and interests with regard to the lack of natural resources on the planet, cooperating with the ideal that environmental goods, for example, should be shared equally by the future generations.

In fact, the inequalities in the 21st century have intensified the discussion on human needs, sustainability and basic rights. From the perspective of expanding the dimensions of sustainability (which shall be called integral sustainability) and the continued expansion of the role of basic rights, this research assumed that it is important to expand the sustainability concept for integral perception.

Different from the vagueness vision and its various adjectives discussed in previous session, sustainability concept as integral embraces all adjectives and dimensions inside of a unique idea. For instance, a sustainable attitude has to involve all of its dimensions. Therefore, from all arguments drawn this research defends the concept of sustainability as integral perception.

#### 4 FINAL CONSIDERATIONS

This research assumes that scholars should deal with the problem of clarifying the sustainability concept and, ideally, should also question whether the current methods used to classify a specific practice as “sustainable” reduces the fragmentation of the human generations, revises the role of man and his manner of appropriating nature.

Thus, this paper objective was to discuss sustainability concepts and their vagueness. This research did not to create a new concept of sustainability, it was adopted the integral perspective.

Integral sustainability concept embraces a world vision that to ensure a more rational use of natural resources; clean production, that avoids waste; control of production effluents; and environmental conservation. It may also include other dimensions such as ecological and environmental efficiency.

Moreover, integral sustainability involves eradicating poverty, attaining social inclusion of all population segments and achieving a minimal rate of unemployment are basic factors within the social dimension, which guarantee the success of sustainable development. The equity interest of the population in national politics and well-run public institutions are other factors that are needed for sustainability.

The arguments traced in this research, also, states that integral sustainability brings local development as an important factor to sustainable results, based on the principle that, within the basic territorial unit, it is able to involve all individuals of society in a fair and responsible market, and minimize economic disparities and social pressure on the lower classes.

Therefore, in order to defend integral sustainability concept, this research showed the importance of solidarity and cooperation between humans being to assure the continuity and the quality of life on Earth. Equally, integral sustainability embraces all dimensions of human life and its continuous expansion of awareness.

Finally, this study recommends that future researches analyze integral sustainability concept and its possible failures. Also, it is suggested that scholars examine the use of sustainability concepts in projects worldwide and assess those concepts and its effects in ensuring sustainability in a broad vision that embraces it is all dimensions.



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